

# The MOLLER Project

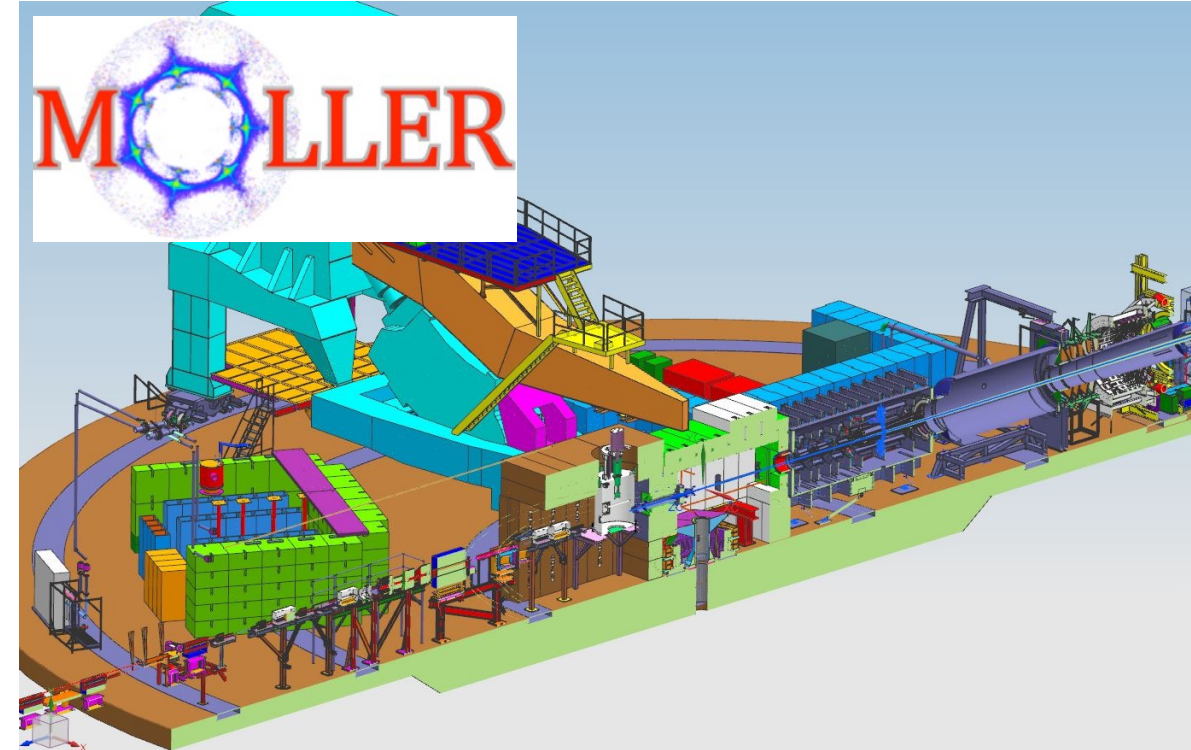
## Project Overview

Jim Fast

MOLLER Project Manager

Jefferson Lab

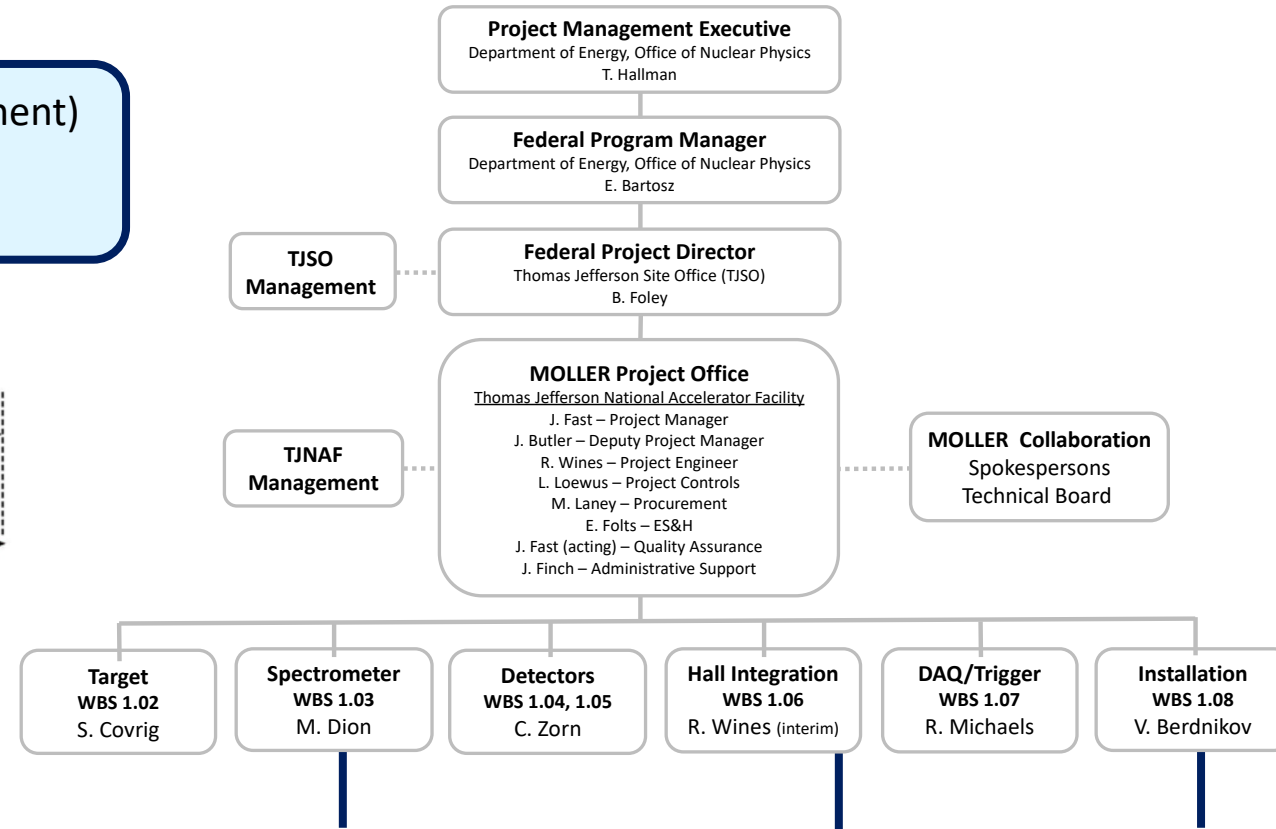
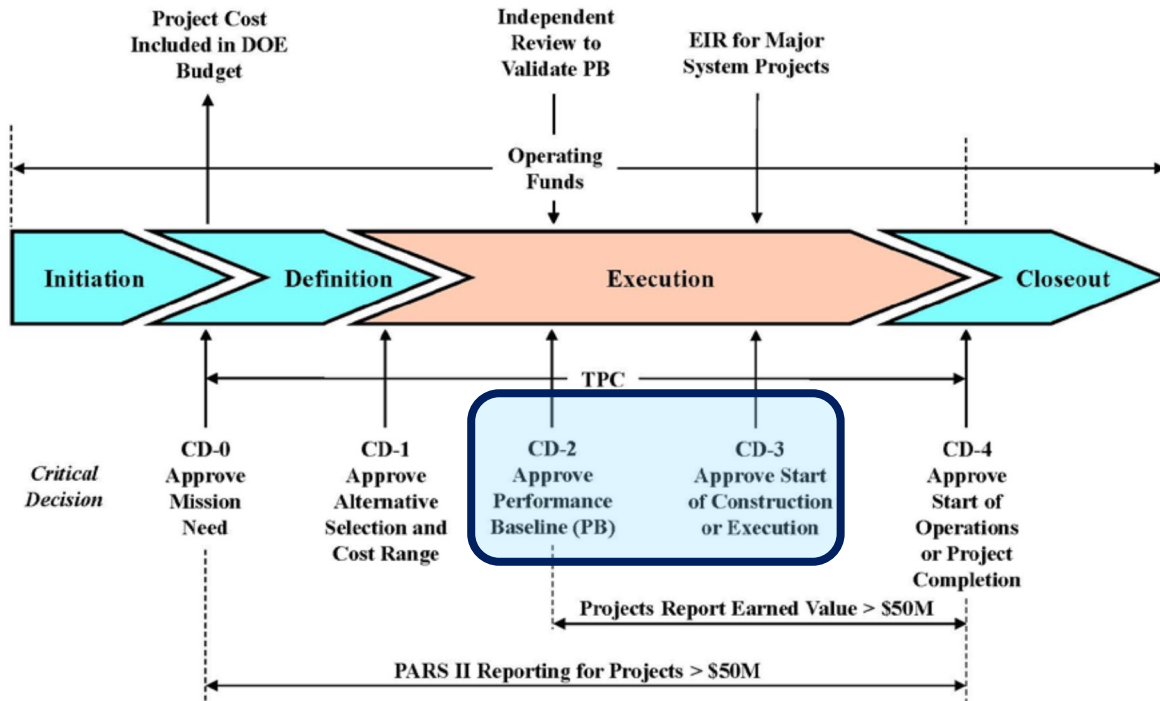
Jefferson Lab



# MOLLER – a DOE Major Item of Equipment (MIE)

- Falls under DOE-O-413.3B Change 5

MOLLER just went through a CD-3a review (Long Lead Procurement) and expects final approval in March 2023. Combined CD-2/3 will be in Q1FY24 (IPR October 2023).



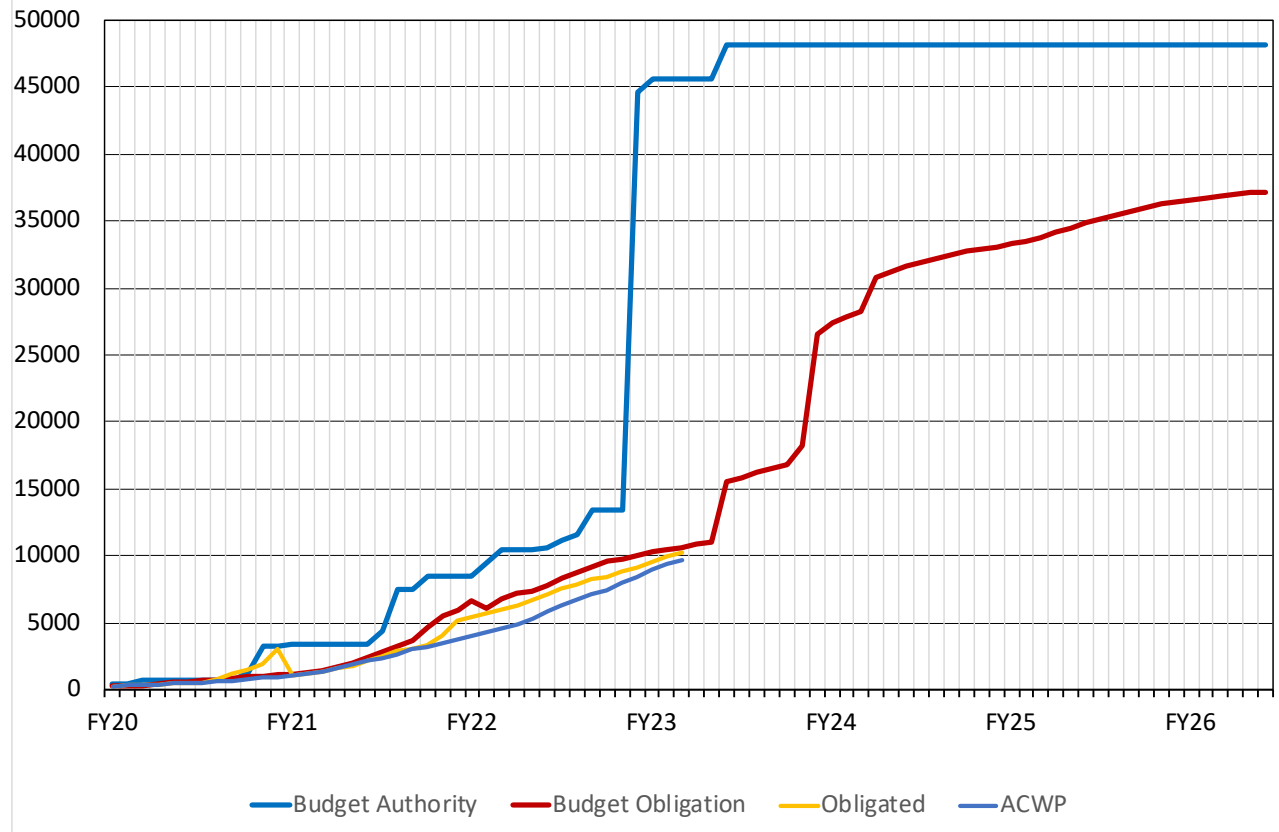
Two new CAMs joined JLab recently (started August and January) Infrastructure open – hope to fill with Hall A staff hiring underway

Figure 2. Typical DOE Acquisition Management System for Other Capital Asset Projects (i.e., Major Items of Equipment and Operating Expense Projects)

# Funding news transformed project planning

- FY23 funding guidance was bleak (\$4M vs \$10M+ needed to maintain schedule)
  - This would have delayed MOLLER by a year
- In August, got word that we were getting **\$31.12M** in Inflation Reduction Act funding

MOLLER Budget Obligation/Budget Authorization Profile (December 2022)



MOLLER has sufficient funds in hand now to complete the project.

Additional \$4M arriving in FY23 will top up contingency (\$1M here now)

Total funding \$48.66M (up \$440k)

# Why CD-3a and delay to CD-2/3?

- To utilize the IRA funding, we need authorization for construction (CD-3) or Long Lead Procurements (CD-3a)
- In August, we were asked about confidence passing a CD-2/3 review in March
- Pre-requisite are an Independent Final Design Review and Director's Review
  - So back up about 3 months and we would need to be fully ready by December 2022
  - Concerned about technical readiness of US torus and detectors
  - More importantly, the management team was just not in place
- Decided to go for CD-3a in January, then CD-2/3 late in 2023
  - Director's Review held in November 2022 – this went well
  - Final Design Review held in December 2022 – mostly good, but not a full pass
- Current status vis-à-vis CD-2/3 readiness
  - Technically (design/engineering), MOLLER is in good shape for CD-2/CD-3
  - Management and planning is not ready
    - Two new CAMs hired (August 2022, January 2023 starts)
    - Holes remain in team (functional deputy PM/PD, Infrastructure CAM, QA, Risk)
    - Inexperienced CAMs need time to be develop skills to manage work under O413.3b
    - Assembly and installation planning is not sufficiently mature

## Proposed CD-3a Scope

- Both Director's Review and IPR committee have advocated for including more scope and ample contingency to avoid schedule concerns for full CD-2/3
  - Supported by DOE-ONP as well
- Request will cover ~50% of MOLLER procurements
  - Target chamber, heads, specialty bellows
  - Concrete pad and H2 storage tanks (refurbishment of 2 existing and buy one new tank)
  - Cryocan for target
  - All of the tungsten collimators, blockers, 2-bounce shield, photon scraper, lintels
  - All of the (5) toroid magnet coils and associated hardware including tungsten belly plates
  - Bulkheads, cooling, electrical interconnects for downstream toroids
    - Can fully build up 4 of 5 toroids
  - Downstream toroid enclosure
  - All large beam pipes, bellows, pion donut shell and support stand
  - Remaining 4 magnet power supplies (one already prototyped)
  - Power distribution panel to feed power supplies with 480VAC

# MOLLER 2023: Long Lead Procurements and on to CD-2/3!

- December 2022 successful Independent Final Design Review
- January 2023 successful Independent Project Review for CD-3a
- March 2023 CD-3a ESAAB approval
- April/May launch long lead procurements
- May 2023 freeze baseline scope, schedule, budget for CD-2/3
- August 2023 CD-2/3 Director's Review
- October 3-5, 2023 Independent Project Review for CD-2/3
- End of CY2023 CD-2/3 ESAAB approval

**MOLLER schedule is well aligned with Hall A schedule**  
**All equipment should be ready ahead of end of SBS running**

Thanks to IRA funding and the enormous effort of the MOLLER project team and collaboration